

hMOR-1A

Exon 3a ↓ **Exon 3b**
---ACTAATCATCAGGTACGCAGTCTCTAGAATTAGGTATATCTACTGGGGATGACATAAAATTATAAGGCTT
T N H Q V R S L * (SEQ ID NO:27)
TGTGCTAACTAGGAGTTTAATCCATTATAGAGGATGAGAAATGGAGGGAAGCAAGGG (SEQ ID NO:28)

hMOR-1B1

Exon 3a ↓ **Exon 5a**
---ACTAATCATCAGAAATAAGATTATTTCAAAAGTCATCTTTACTCAACTGTGAGCATACCAAGGGCTAATA
T N H Q K I D L F Q K S **S[#]** L L N C E H T K G * (SEQ ID NO:29)
ATTACAATATTTCCCGTGAAAGAAATATAAGATTGGAAGC (SEQ ID NO:30)

hMOR-1B2

Exon 3a ↓ **Exon 5b**
---ACTAATCATCAGAGAGAAAGAACAGACAGAAATCTGACTGGTAAGAAATTGTACCCTTTTGCCAGCATGCCA
T N H Q R E R R Q K **S[#]** D W * (SEQ ID NO:31)
GGCTTCTGGGTTCCCTTTCCCTGAGCGGCCCTAGTGATCCGGCTTGCGGCACCATCGCCTACGGGCC--- (SEQ ID NO:32)

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hMOR-1B3

Exon 3a ↓ **Exon 5c**
---ACTAATCATCAGGGACCTCCAGCCAAAGTTTGTGCTGACCAACTTGCCGGGTCGTCCTTGAAAAGGGGCTT
T N H Q G P P A K F V A D Q L A G S * (SEQ ID NO:33)
ACAGGTGTTCCAAGCCCCGTGTTTATCCTGAAGTATCCCTCAACACAGAAAAACGACCTCATACACAAA--- (SEQ ID NO:34)

hMOR-1B4

Exon 3a ↓ **Exon 5d**
---ACTAATCATCAGAGCTGACTATGACATGAACCCCTAAAAATTCCTGTTCCTCC--- (SEQ ID NO:35)
T N H Q S * (SEQ ID NO:36)

FIG. 1B(1)

hMOR-1B5

Exon 3a ↓ **Exon 5e**
---ACTAATCATCAGGTGGGAATTGAACCTGGACTGTCACTGTGAAAATGCAAAGCCTTGGCCACTGAGCTACAA
T N H Q V E L N L D C H C E N A K P W P L S **Y^s** N
TGCAGGGTAGTCTCCATTTCCTTCCCAGGAAGAGTCTAGAGCGTTA--- (SEQ ID NO:37)
A G * (SEQ ID NO:38)

hMOR-1Y

Exon 3a ↓ **Exon Y**
---ACTAATCATCAGATCAGAGATCCAATATCAAACCTTCCCAGGGTGTCTGTATTCTGACAACTGTCCACTGA
T N H Q I R D P I S N L P R V **S[#]** V F * (SEQ ID NO:39)
↓ **Exon 5c**
GGCAATTTCATACAGCGCAAAGTGGAGTGGCGATTTGGCAGTTATCAAGGGACCTCCAGCCCAAGTT TGGT--- (SEQ ID NO:40)

FIG. 1B(2)

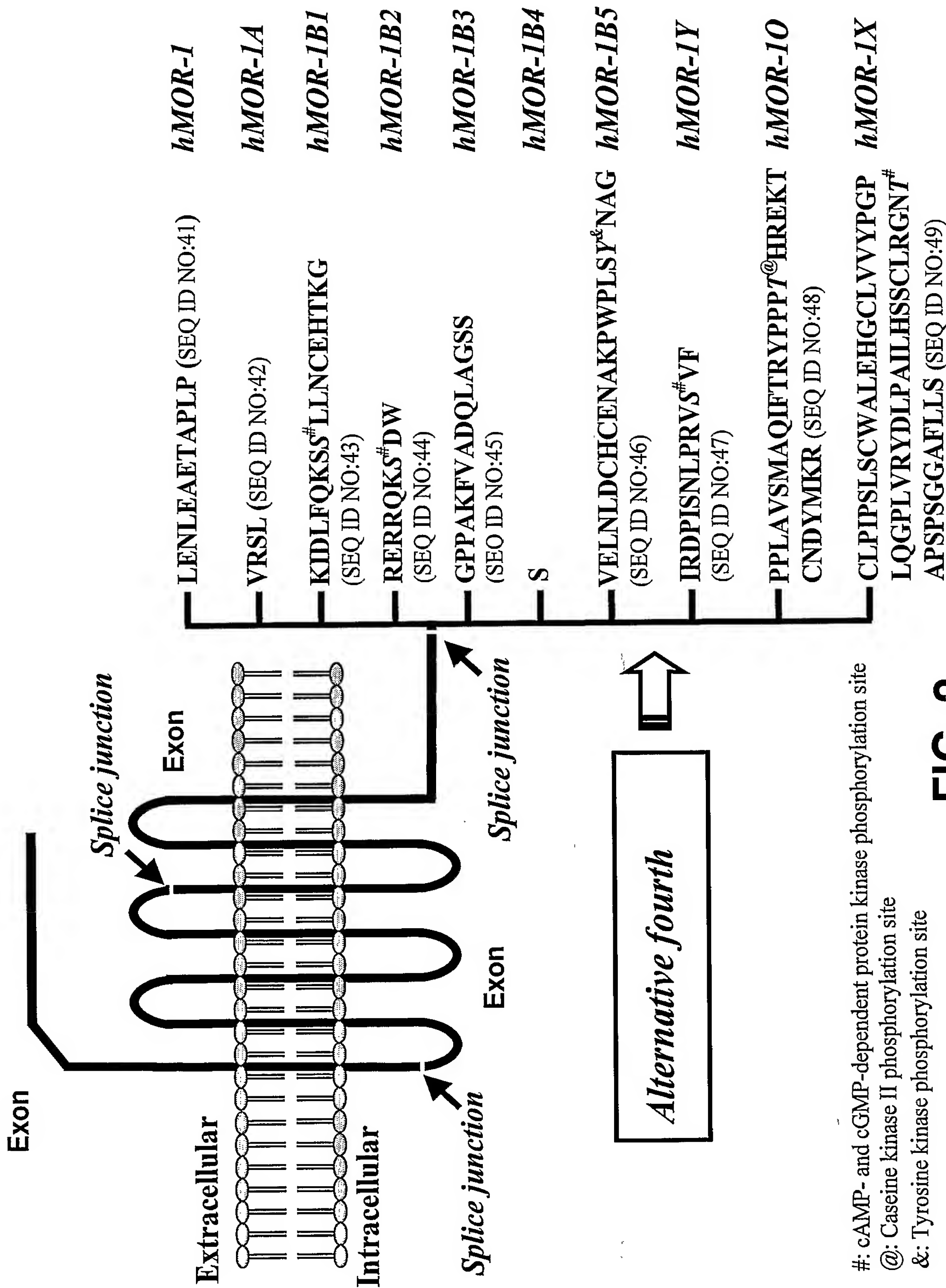


FIG. 2

hMOR-1B1 (1354 bp)

CGGAAAGGAAGCGGCTGAGGCGCTTGGAACCCGAAAGTCTCGGTGCTCCTGGCTACCTCGCACAGCGGTGCCCGCCC
GGCCGTCAGTACCATGGACAGCAGCGCTGCCCCACGAACGCCAGCAATTGCACTGATGCCCTTGGCGTACTCAAGTTG
CTCCCCAGCACCCAGCCCCGTTCTCTGGGTCAACTTGTCCCACCTTAGATGGCAACCTGTCCGACCCCATGCGGTCCGAAC
CGCACCGACCTGGGCGGGAGAGACAGCCTGTGCCCTCCGACCGGAGTCCCTCCATGATCACGGCCATCACGATCATG
GCCCTCTACTCCATCGTGTGCGTGGTGGGCTCTTCGGAAACTTCTGTGTCATGTATGTGATTGTTCAGATACACCAAGAT
GAAGACTGCCACCAACATCTACATTTTCAACCTTGCTCTGGCAGATGCCCTTAGCCACCAGTACCCTGCCCTTTCAGAGT
GTGAATTACCTAATGGGAACATGGCCATTTTGGAAACCATCCTTTGCAAGATAGTGATCTCCATAGATTACTATAACATGT
TCACCAGCATATTCAACCTCTGCACCATGAGTGTGATCGATACATTGCAGTCTGCCACCCCTGTCAAGGCCTTAGATTTC
CGTACTCCCCGAAATGCCAAATTATCAATGTCTGCAACTGGATCCTCTCTCAGCCATTGGTCTTCTGTAATGTTTCAT
GGCTACAACAAATACAGGCAAGGTTCCATAGATTGTACACTTCTCTCATCCAAACCTGGTACTGGGAAACACCTG
CTGAAGATCTGTGTTTTCATCTTCGCCCTTCATTATGCCAGTGCTCATCAATACCCTGTGCTATGGACTGATGATCTTGCG
CCTCAAGAGTGTCGCCATGCTCTCTGGCTCCAAAGAAAGGACAGGAATCTTCGAAGGATCACCAAGGATGGTGTGTTGT
GGTGGTGGCTGTGTTTCATCGTCTGTGGACTCCCATTCACATTACGTTCATCAATAAGCCTTGGTTACAATCCCAGAAA
CTACGTTCCAGACTGTTTCTTGGCACTTCTGCACTTAGGTTACACAAACAGCTGCCCTCAACCCAGTCCCTTATGCA
TTTCTGGATGAAAACTTCAAACGATGCTTCAGAGAGTTCTGTATCCCACCTCTTCCAACATTGAGCAACAAACTCCA
CTCGAATTCTGTCAGAACACTAGAGACCCCTCCACGGCCAAATACAGTGGATAGAACTAATCATCAGAAAAATAGATT
TATTTCAAAGTCACTCTTTACTCACTGTGAGCATACCAAGGGCTAATAATTACAATAATTTTCCCGTGAAAGAATATAA
GATTGGGAAGC (SEQ ID NO:50)

hMOR-1B1 (406 aa)

MDSSAAPTNASNCTDALAYSSCPAPSPGSWVNLSHLDGNLSDPCGPNRTDLGGRDSLCPPTGSPSMITAITIMALYSIVCVV
GLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALATSTLPEQSVNLYLMGTWPFGTILCKIVISIDYYNNMFTSIFTLCTMSVDR
YIAVCHPVKALDFRTPRNAKINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFIFAFIMPVLIITV
CYGLMILRLKSVRMLSGSKEKDRNLRITRMVLVVAVFIVCWTPHIYVIKALVTIPETTFQTVSWHFCIALGYTNSCLNPV
LYAFLDENFKRCFREFCIPTSSNIEQQNSTRIRQNTRDHPSTANTVDRTNHQKIDLFQKSSLLNCEHTKG (SEQ ID NO:51)

FIG. 3A

hMOR-1B2 (2218 bp)

CGGTGCTCCTGGCTACCTCGCACAGCGGTGCCCGCCGGCGTCAGTACCATGACAGCAGCGTGCCCCACGAACG
CCAGCAATTGCACCTGATGCCCTTGGCGTACTCAAGTTGCTCCCGCAGCACCCAGCCCGGTTCTTGGTCAACTTGTCCCA
CTTAGATGGCAACCTGTCCGACCCATGCGGTCCGAACCGACCTGGGCGGAGACAGCCTGTGCCCTCCGAC
CGGCAGTCCCTCCATGATCACGGCCATCACGATCATGGCCCTCTACTCCATCGTGTGCGTGGGCTCTTTCGGAAAC
TTCCCTGGTCATGTGATTTGTCAGATACACCAAGATGAAGACTGCCACCAACATCTACATTTTCAACCTTGCTCTGGC
AGATGCCCTTAGCCACCAAGTACCCCTGCCCTTCCAGAGTGTGAATTACCTAATGGGAACATGGCCATTTGGAAACCATCCCT
TGCAAGATAGTGATCTCCATAGATTACTATAACATGTTCCAGCATATTCACCCCTCTGCACCATGAGTGTGATCGAT
ACATTTGCAGTCTGCCACCCCTGTCAAGGCCTTAGATTTCGTACTCCCCGAATGCCAAATATCAATGTCTGCAACTG
GATCCTCTTTCAGCCATTGGTCTTCTGTATGTTTCATGGCTACAACAATAACAGGCAAGGTTCCATAGATTGTACAC
TAACATTTCTCTCATCCAACCTGGTACTGGGAACAACCTGCTGAAGATCTGTGTTTTCATCTTCGCCCTTCATTATGCCAGTG
CTCATCTATTACCGTGTGCTATGGACTGATGATCTTTGGCCCTCAAGAGTGTCCGCATGCTCTCTGGCTCCAAAGAAAAGG
ACAGGAATCTTTCGAAGGATCACCAAGGATGGTGGTGGTGTGTTTCATCGTCTGTGACTCCCATTCACAT
TTACGTCAATCAATAAGCCTTGGTTACAATCCAGAAACTACGTTCCAGACTGTTTCTTTGGCACTTCTGCAATTGCTCTAG
GTTACACAAACAGCTGCCCTCAACCCAGTCCCTTATGCAATTTCTGGATGAAAACCTTCAACGATGCTTCAGAGAGTTCTG
TATCCCAACCTCTTCCAACATTGAGCAACAAAACCTCCACTCGAATTCGTGAGAACACTAGAGACCAACCCCTCCACGGCC
AATACAGTGGATAGAACTAATCATCAGAGAGAAAGAACAGACAGAAATCTGACTGGTAAGAAATTGTTACCCCTTTTGCCA
GCATGCCAGGCTTCTGGGTTCCCTTTCCCTGAGCGGCCCTAGTGATCCGGCTTGGCGCACCATCGCCTACGGGCCAAGC
TGCAATCAATAAGGAATTTTTTTTCATTTCTGGCCAGAGCAAAACACATGTGATAAAACATAGGCATTAGCTACTCTG
CTTAGCACCAAAATATCAGACTAGCTTAAATTTGCCCCAGATGGGTTCCATCTTTAATCCGACCTCTGACTTGCACT
TTCAACACGTGCTCTTTGGGCAAAACAGTTGCCCTGAGTAACAGAAAGATAGGAAAGGAAAGGAGAGAGAGAA
AATGTGCCCAGTGAAGGTTGGGAAGGTGAATGATCAAGGAGCCAGAGAAAGACTCACCTATTGCGAGCAACACT
GTAGAAGTTCAGGCAGCTGCTTCTCGGTAGCAAAAGGATCTTTTCCAGCAATCCTATTAGCTCTCAAGTTTCCCTTTTA
GGGAGGAAAGCTCCCCATGTCCCGCGATCCTGTACATGTCCAACCCCTGCCATCCACAGCCATCAGCAAGAGTGCA
AGACAGATTAAATCCAAAGAGAAATAGCAATTAAATATCCCATAGCATCAAGCTGTTCTTAGCCAGAGGGACTTTAACG
GGAGGGTCTCTAACACCCCTAAATCTTAGAAGAGACTCTAACCATCCTAAGTAGGGCTCTAACCCCGCTTTATAAACT
TTTAAATTGACTCCCATCTTAACAGTTGCAATCCATGGAGGAATGCTTGATAACCTCGGTGATAAGATAAAACCAAGC
ATACTAGAAGTGTCTCTAAATTAATAAATACAGTAGTTGCTAGAGAAAATTTTAGTCCAAAAATCCAACCTATAGAA
ACATAGAATGTGAGAGGTAGCACATAAGAAATAAGTCATGGGGATTTTATTTTCATGGACCAGCAATATGATGATAAAA
GCCATCTAACC (SEQ ID NO:52)

FIG. 3B(1)

hMOR-1B2 (397 aa)

MDSSAAPTNASNCTDALAYSSCSPAPSPGSWVNLSHLDGNLSDPCGPNRTDLGGRDSLCPPTGSPSMITAITIMALYSIVCVV
GLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALATSTLPFQSVNYLMGTWPFGTILCKIVISIDYYNNMFTSIFTLCTMSVDR
YIAVCHPVKALDFRTPRNAKINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFFAFIMPVLIITV
CYGLMILRLKSVRMLSGSKEKDRNLRRITRMVLVVAVFIVCWTPIHIVVIAKALVTIPETTFQTVSWHFCIALGYTNSCLNPV
LYAFLDENFKRCFREFCIPTSSNIEQQNSTRIRQNTRDHPSTANTVDRTNHQRRRQKSDW
(SEQ ID NO:53)

FIG. 3B(2)

hMOR-1B3 (2483 bp)

CGGTGCTCCTGGCTACCTCGCACAGCGGTGCCCGCCGGCGTCAGTACCATGGACAGCGCTGCCCCACGAACG
CCAGCAATTGCACTGATGCCCTTGGCGTACTCAAGTTGCTCCCGCAGCACCCAGCCCGGTTCTCTGGGTCAACTTGTCCCA
CTTAGATGGCAACCTGTGCCACCCATGCGGTCCGAACCGACCTGGGCGGAGAGACAGCCTGTGCCCTCCGAC
CGGCAGTCCCTCCATGATCACGGCCATCACGATCATGGCCCTCTACTCCATCGTGTGCGTGGGCTCTTTCGGAAC
TTCCCTGGTCAATGTGATTGTGTCAGATACCAAGATGAAGACTGCCACCAACATCTACATTTTCAACCTTGCTCTGGC
AGATGCCCTTAGCCACCAAGTACCCCTGCCCTTCCAGAGTGTGAATTACCTAATGGGAACATGGCCATTTGGAACCATCCTT
TGCAAGATAGTGATCTCCATAGATTACTATAACATGTTCAACCAAGCATATTCACCCCTCTGCACCATGAGTGTGATCGAT
ACATTTGCAGTCTGCCACCCCTGTCAAGGCCTTAGATTTCCGTACTCCCCGAATGCCAAATTAATCAATGTCTGCAACTG
GATCCTCTTTCAGCCATTGGTCTTCCGTGTAATGTTCAATGGCTACAACAATAACAGGCAAGGTTCCATAGATTGTACAC
TAACATTTCTCTCATCCAACCTGGTACTGGGAACAACCTGCTGAAGATCTGTGTTTTCATCTTTCGCCTTTCATTAATGCCAGTG
CTCATCAATTACCGTGTGCTATGGACTGATGATCTTTGGCCCTCAAGAGTGTCCGCATGCTCTCTGGCTCCAAGAAAGG
ACAGGAATCTTTCGAAGGATCACCAAGGATGGTGGTGGTGTGTTCAATCGTCTGTGGACTTCCCATTTCACAT
TTACGTCAATCAATTAAGCCTTGGTTACAATCCAGAAACTACGTTCCAGACTGTTTCTTGGCACTTCTGCAATTGCTCTAG
GTTACACAAACAGCTGCCCTCAACCCAGTCCTTTATGCAATTTCTGGATGAAAACCTTCAACGATGCTTCAGAGAGTTCTG
TATCCCAACCTCTTCCAACATTTGAGCAACAACCTCCACTCGAATTCGTCAAGAACACTAGAGACCACCCCTCCACGGCC
AATACAGTGGATAGAACTAATCATCAGGGACCTCCAGCCAAGTTTGTGTTGCTGACCAACTTGCCGGGTCTCTTGAAAAG
GGGGCTTACAGGTGTTCCAAGCCCGTGTTTATCCTGAAGTATCCCTCAACACAGAAAACGACCTCATACACAAAAAT
ACACCAGCTTAAAAATAGCCTTTGAATTATTTTTCACATTAATCAAAAACCTTTACAGAGGAGATAAACACTGATTTTAT
TTTATTTTATTTTATTTTATTTTATTTGCCATTCAATCAACCGTTTGCACAGAGAGAAAGAACAGAAATCTGACT
GGTAAGAAATTTGTTACCCCTTTTGCCAGCATGCCAGGCTTCTGGGTTCCCTTCCCTGAGCGGCCCTAGTATCCGGCTTG
CGGCACCATCGCCTACGGGCCAAGCTGCATCATAAAGGAATTTTCTTCTGCTGCGCAGAGCAAAACACATGTGA
TAAACATAGGCATTAGCTACTCTGCTTAGCACCAATAATCAGACTAGCTTAATAATTTGCCCCAGACGGGTTCCATCAT
CTTTAATCCGACCTCTGACTTGCAAGTTTCAACACGTGCTCTCTGGCAAAACAGTTGCCCTGAGTAACAGAAAGATAG
GAAAGGAAAGGAGAGAGAGAAACCGTGCCAGTGAAGGTGGGAAGGTGAATGATCAAGGAGGCCAGAGAA
GACTCACCTATTGCAAGCAACACTGTAGAAGTTCAAGCAGCTGCTTCTCGGTAGCAAAAGGATCTTTTCCAGCAATCCTA
TTAGCTCTCAAGTTTCCCTTTTAGGGAGGAAAAAGCTCCCCATGTCCCGGATCCTGTACATGTCCAACCCCTGCCGTCC
ACAGCCATCAGCAAGAGTGCAGACAGATTAATCCAAGAGAAATAGCGATTAAATATCCCATAGCATCAAAAGCTGTTC
TTAGCCAAAGAGGGACTTTAACGAGAGGGGTCTCTAACACCCCTAAATCTTAGAAGAGACTCTAACCATCCTAAGTAGGG
CCTCTAACCCCGCTTTATAAATTTTAAATTGACTCCCATCTTAACAGTTGCAATCCATGGAGGAATGCTTGATAACCTCG
GTGATAAGATAAAAAACCAAGCATACTAGAGTGTCTCTAAATTAATAATACAGTAGTTGCTAGAGAAAAATTTTA

FIG. 3C(1)

GTCCAAAATCCAACATAGAAACATAGAAATGTGAGAGGCAGCACATAAGAAATAAGTCATGGGGATTTTATTTCAT
GGACCAGCAATATGATGATGATAAAGCCATCTAACC (SEQ ID NO:54)

hMOR-1B3 (403 aa)

MDSSAAPTNASNCTDALAYSSCAPSPGSWVNLSHLDGNLSDPCGPNRTDLGGRDSLCPPTGSPSMITAITMALYSIVCVV
GLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALATSTLPEQSVNYLMGTWPEGTILCKIVISIDYYNNMFTSIFTLCTMSVDR
YIAVCHPVKALDFRTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFIFAFIMPVLIITV
CYGLMILRLKSVRMLSGSKEKDRNLRRIITRMVLVVAVFIVCWTPHIYVIAKALVTIPETTFQTVSWHFCIALGYTNSCLNPV
LYAFLDENFKRCFREFCIPTSSNIEQQNSTRIQNTRDHPSTANTVDRTNHQGPPAKFVADQLAGSS (SEQ ID NO:55)

FIG. 3C(2)

hMOR-1B4 (1251 bp)

CGGTGCTCCTGGCTACCTCGCACAGCGGTGCCCGGCCGCGTCAGTACCATGGACAGCAGCGCTGCCCCCCACGAACG
CCAGCAATTGCACTGATGCCCTTGGCGTACTCAAGTTGCTCCCCAGCACCCAGCCCCGGTTCTCTGGGTCAACTTGTCCCA
CTTAGATGGCAACCTGTCTCCGACCCATGCGGTCCGAACCGCACCGACCTGGGCGGAGAGACAGCCTGTGCCCTCCGAC
CGCAGTCCCTCCATGATCACGGCCATCACGATCATGGCCCTCTACTCCATCGTGTGCGTGGGCTCTTCGGAAAC
TTCCCTGGTCATGTATGTGATTGTCAGATACACCAAGATGAAGACTGCCACCAACATCTACGTTTTCACACCTTGTCTCTGGC
AGATGCCCTTAGCCACCAAGTACCCCTTCCAGAGTGTGAATTACCTAATGGGAACATGGCCATTTGGAAACCATCCTT
TGCAAGATAGTGAATCTCCATAGATTACTATAACATGTTCACCAGCATATTCAACCCTCTGCACCATGAGTGTGATCGAT
ACATTGCAGTCTGCCACCCCTGTCAAGGCCCTTAGATTTCGGTACTCCCCGAAATGCCAAAAATTATCAATGTCTGCAACTG
GATCCTCTCTCAGCCATTGGTCTTCCCTGTAAATGTTTCATGGCTACAACAAAATACAGGCAAGGTTCCATAGATTGTACAC
TAACATTCTCTCATCCAAACCTGGTACTGGGAAAACCTGTGTAAGATCTGTGTTTTCATCTTCGCCCTTCATTATGCCAGTG
CTCATCATTAACCGTGTGCTATGGACTGATGATCTTGGCCCTCAAGAGTGTCGCCATGCTCTCTGGCTCCAAAGAAAAGG
ACAGGAATCTTCGAAGGATCACCAAGGATGGTGTGGTGTGTTTCATCGTCTGTGCTGACTCCCATTCACAT
TTACGTTCATCATTAAGCCTTGGTACAAATCCCAGAACTACGTTCCAGACTGTTTCTTGGCACTTCTGCAATTGCTCTAG
GTTACACAACAGCTGCCCTCAACCCAGTCCTTTATGCATTTCTGGATGAAAACTTCAAACGATGCTTCAGAGAGTTCTG
TATCCCAACCTCTTCCAACATTGAGCAACAAAACCTCCACTCGAATTCTGTCAGAACTAGAGACCAACCCCTCCACGGCC
AATACAGTGGATAGAACTAATCATCAGAGCTGACTATGACATGAACCCCTAAAATTCTCTGTTCCC (SEQ ID NO:56)

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hMOR-1B4 (389 aa)

MDSSAAPTNASNCTDALAYSSCSPAPSGSWVNLSHLDGNLSDPCGPNRTDLGGRDSLCPPTGSPSMITAITMALYSIVCVV
GLFGNFLVMYVIVRYTKMKTATNIYVFNLALADALATSTLPFQSVNYLMGTWPFGTILCKIVISIDYYNNMFTSIFTLCTMSVD
RYIAVCHPVKALDFRTPRNAKIINVCNWILSSAIGLPVMFMAATTKYRQGSIDCTLTFSHPTWYWENLLKICVFIFAFIMPVLIIT
VCYGLMILRLKSVRMLSGSKEKDRNLRRTIRMVLVVAVFIVCWTPIHIVIIKALVTIPETTFQTVSWHFCIALGYTNSCLNP
VLYAFLDENFKRCFREFCIPTSSNIEQQNSTRIRQNTRDHPSTANTVDRTNHQ\$ (SEQ ID NO:57)

FIG. 3D

hMOR-1B5 (1402 bp)

CGGTGCTCCTGGCTACCTCGCACAGCGGTGCCCGCCGGCTCAGTACCATGGACAGCAGCGCTGCCCCACGAACG
CCAGCAATTGCACTGATGCCTTGCGGTACTCAAGTTGCTCCCAAGCAACCCAGCCCGGTTCTTGGTCAACTTGTCCCA
CTTAGATGGCAACCTGTCCGACCCATGCGGTCCGAACCGCACCGACCTGGCGGAGAGACAGCCTGTGCCCTCCGAC
CGGCAGTCCCTCCATGATCACGGCCATCACGATCATGGCCCTCTACTCCATCGTGTGCGTGGGCTCTTCGGAAAC
TTCCTGGTCAATGTGATTGTTCAGATACACCAAGATGAAGACTGCCACCAACATCTACATTTTCAACCTTGTCTGGC
AGATGCCCTTAGCCACCAGTACCCCTGCCCTTCCAGAGTGTGAATTACCTAATGGGAACATGGCCATTTGGAACCATCCTT
TGCAAGATAGTGATCTCCATAGATTACTATAACATGTTACCCAGCATATTACCCCTCTGCACCATGAGTGTGATCGAT
ACATTGCAGTCTGCCACCCCTGTCAAGGCCCTTAGATTTCCGTACTCCCCGAAATGCCAAAAATTATCAATGTCTGCAACTG
GATCCTCTCTCAGCCATTGGTCTTCCCTGTAAATGTTCAATGGCTACAAACAAATACAGGCAAGGTTCCATAGATTGTACAC
TAACATTTCTCTCATCCAAACCTGGTACTGGGAAAACCTGTCTGAAGATCTGTGTTTTCATCTTCGCCCTTCAATTATGCCAGTG
CTCATCATTAACCGTGTGCTATGGACTGATGATCTTTGCCCTCAAGAGTGTCCGCATGCTCTCTGGCTCCAAAGAAAGG
ACAGGAATCTTCGAAGGATCACCAAGGATGGTGTGCTGGTGGTGTGTTTCACTCGTCTGCTGGACTCCCATTCACAT
TTACGTCATCATTAAGCCTTGGTTACAATCCCAGAAACTACGTTCCAGACTGTTTCTTGGCACTTCTGCAATTGCTCTAG
GTTACACAAACAGCTGCCCTCAACCCAGTCTTTATGCAATTTCTGGATGAAAACTTCAACGATGCTTCAGAGAGTTCTG
TATCCCAACCTCTTCCAAACATTGAGCAACAAACTCCACTCGAAATTCGTCAGAACACTAGAGACCAACCCCTCCACGGCC
AATACAGTGGATAGAACTAATCATCAGGTGGAATTGAACCTGGACTGTCACTGTGAAATGCAAGCCTTGGCCACTG
AGCTACAAATGCAGGGTAGTCTCCATTTCCTTCCCAGGAAGAGTCTAGAGCGTTAATTTTGAGTTTGGCGAAGGCTTGTA
ACTATTTCATATGATTTTtagagctgactatgacatgaaccctaaaaattcctgttccc (SEQ ID NO:58)

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hMOR-1B5 (410 aa)

MDSSAAPTNASNCTDALAYSSCSPAPSPGSWVNLSHLDGNLSDPCGPNRTDLGGRDSLCPPTGSPSMITAITMALYSIVCVV
GLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALATSTLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDR
YIAVCHPVKALDFRTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFHAFIMPVLIITV
CYGLMILRLKSVRMLSGSKEKDRNLRRIITRMVLVVVAVFIVCWTPHIIYVIKALVTIPETTFQTVSWHFCIALGYTNSCLNPV
LYAFLDENFKRCFREFCIPTSSNIEQQNSTRIQRQNTRDHPSTANTVDRTNHQVELNLDCHCENAKPWPLSYNAG (SEQ ID
NO:59)

FIG. 3E

CGGTGCTCCTGGCTACCTCGCACAGCGGTGCCCGCCCGCGGTACCATGGACAGCAGCGCTGCCCGCCACGAACG
CCAGCAATTGCACTGATGCCCTTGGCGTACTCAAGTTGCTCCCGCAGCACCCAGCCCGGTTCTTGGGTCAACTTGTCCCA
CTTAGATGGCAACCTGTCCGACCCATGCGGTCCGAACCGCACCGACCTGGCGGAGAGACAGCCTGTGCCCCTCCGAC
CGGCAGTCCCTCCATGATCACGGCCATCACGATCATGCGCCTCTACTCCATCGTGTGCTGTGGGCTCTTTCGGAAAC
TTCTGTGTCATGTATGTGATTGTCCAGATACACCAAGATGAAGACTGCCAACCACTACATTTTCAACCTTGTCTCTGGC
AGATGCCCTTAGCCACCAGTACCCTGCCCTTCCAGAGTGTGAATTACCTAATGGGAACATGGCCATTGTGGAACCATCCTT
TGCAAGATAGTATCTCCATAGATTACTATAACATGTTCAACCATGTTCAACCTCTGCACCATGAGTGTGATCGAT
ACATTTGCAGTCTGCCACCTGTCAAGGCCTTAGATTTCCGTACTCCCCGAAATGCCAAATATCAATGTCTGCAACTG
GATCCTCTCTTCAGCCATTGGTCTTCCGTAAATGTTTCATGGCTACAAACAAATACAGCAAGGTTCCATAGATTGTACAC
TAACATTCTCTCATCCAACTGTGTAATGTTGGAACCTGCTGAAGATCTGTGTTTTCATCTTCGCCCTTCATTATGCCAGTG
CTCATATTACCGTGTGCTATGGACTGATGATCTTGGCCCTCAAGAGTGTCCGCATGCTCTCTGGCTCCAAAGAAAGG
ACAGGAATCTTCGAAGGATCACCAAGGATGGTGTGGTGTGCTGTGTTTCATCGTGTGCTGCTGCACTTCTGCACTCTCTAG
TTACGTTCATCATTAAGCCTTGGTTACAATCCAGAAACTACGTTCCAGACTGTTTCTTGGCACTTCTGCACTTGTCTCTAG
GTTACACAAACAGCTGCCCTCAACCCAGTCTTTATGCAATTCTGGATGAAACTTCAACGATGCTTCAGAGAGTTCTG
TATCCCAACCTCTTCCAAACATTGAGCAACAAACTCCACTCGAATTCTGTCAGAACACTAGAGACCACCCCTCCACGGCC
AATACAGTGGATAGAACTAATCATCAGATCAGAGATCCAATATCAAACTTCCCAGGTGTCTGTATTCTGACAACTGT
CCTGAGGCAATTTCCATACAGCGCAAAAGTGGAGTGGGATTTGGCAGTTATCAAGGACCTCCAGCCAAAGTTTGTG
CTGACCAACTTGCCGGTCTTTGAAAAGGGGGCTTACAGGTGTTCCAAAGCCGTGTTTATCCTGAAGTATCCCTCA
ACACAGAAACACGACCTCATACACAAAAATACACCAGCTTAAAAATAGCCTTTGAATTAATTTTTCACATTAAATCAAAC
TTTACAGAGAGATAAACACTGATTTTATTTTATTTTATTTTATTTTATTTTATTTGCCATTTCATTCAACCGTTTG
CACAGAGAAAGAACAGACAGAAATCTGACTGTAAGAAATGTTACCTTTTGGCAGCATGCCAGGCTTCTGGGTCC
CTTTCCCTGAGCGCCCTAGTATCCGGCTTGCGGCACCATCGCCTACGGCCAAGCTGCATCATAAAGGAAATTTT
TTTTTTTCATTTCTGGCCAGAGCAAAACACATGTGATAAAACATAGGCATTAGCTACTCTGCTTAGCACCAATAATCAGAC
TAGCTTAAATTTTGCCCCAGATGGGTTCCATCATCTTAAATCCGACCTCTGACTTGCAGTTTTCACCACTCTCTCTGG
CAAAACAGTTTGCCCTGAGTAACAGAAAAGATAGGAAAAGGAGAGAGAGAAACGTGCCAGTGAAGGGGT
GGGAAGGTGAATGATCAAGGAGGCCAGAGAAAGACTCACCTATTGCAGCAACACTGTAGAAAGTTCAGGCAGCTGC
TTCTCGGTAGCAAAAGGATCTTTTCCGGCAATCCTATTAGCTCTCAAGTTTCCCTTTTAGGGAGGAAAGCTCCCCAT
GTCCCGCATCCTGTACATGTCCAACCTGCCATCCACAGCCATCAGCAAGAGTGCAAGACAGATTAAATCCAAAGAG
AATAGCAATTAAATATCCCATAGCATCAAAAGCTGTTCTTAGCCAAGGGACTTTAACGAGAGGGGTCTCTAACACCCCTA
AATCTTAGAAGAGACCTTAACCATCCTAAGTAGGGCTCTAACCCCGCTTATAAACTTTTAAATTGACTCCCATCTTAAC

FIG. 3F(1)

AGTTGCAATCCATGGAGGAATGCTTGATAACCTCGGTGATAAGATAAAAAACCAAGCATACTAGAAAGTGTTCTCTAAA
ATTAAATAACAGTAGTTGCTAGAGAAAAATTTTAGTCCAAATAATCCAACCTATAGAAACATAGAAATGTGAGAGGTAGC
ACATAAGAAAAATAAGTCATGGGGATTTTATTTCATGGACCAGCAATATGATGATATAAAAGCCCATCTAACCAAGGGC
(SEQ ID NO:60)

hMOR-1Y (402 aa)

MDSSAAPTNASNCTDALAYSSCSPAPSPGSWVNLSHLDGNLSDPCGPNRTDLGGRDSLCPPTGSPSMITAITMALYSIVCVV
GLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALATSTLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDR
YIAVCHPVKALDFRTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFIFAFIMPVLIITV
CYGLMILRLKSVRMLSGSKEKDRNLRRTRMVLVVVAVFIVCWTPIHIVVIKALVTIPETTFQTVSWHFCIALGYTNSCLNPV
LYAFLDENFKRCREFCRIPTSSNIEQQNSTRIRQNTRDHPSTANTVDRTNHQIRDPISNLPVSVF (SEQ ID NO:61)

FIG. 3F(2)

hMOR-1 (1) MDSSAAPTNASNCTDALAYSSCPAPSPGSGWVNLSHLDGNLSDPCGPNRTDLGGRDSLCP
hMOR-1A (1) MDSSAAPTNASNCTDALAYSSCPAPSPGSGWVNLSHLDGNLSDPCGPNRTDLGGRDSLCP
hMOR-1B1 (1) MDSSAAPTNASNCTDALAYSSCPAPSPGSGWVNLSHLDGNLSDPCGPNRTDLGGRDSLCP
hMOR-1B2 (1) MDSSAAPTNASNCTDALAYSSCPAPSPGSGWVNLSHLDGNLSDPCGPNRTDLGGRDSLCP
hMOR-1B3 (1) MDSSAAPTNASNCTDALAYSSCPAPSPGSGWVNLSHLDGNLSDPCGPNRTDLGGRDSLCP
hMOR-1B4 (1) MDSSAAPTNASNCTDALAYSSCPAPSPGSGWVNLSHLDGNLSDPCGPNRTDLGGRDSLCP
hMOR-1B5 (1) MDSSAAPTNASNCTDALAYSSCPAPSPGSGWVNLSHLDGNLSDPCGPNRTDLGGRDSLCP
hMOR-1O (1) MDSSAAPTNASNCTDALAYSSCPAPSPGSGWVNLSHLDGNLSDPCGPNRTDLGGRDSLCP
hMOR-1X (1) MDSSAAPTNASNCTDALAYSSCPAPSPGSGWVNLSHLDGNLSDPCGPNRTDLGGRDSLCP
hMOR-1Y (1) MDSSAAPTNASNCTDALAYSSCPAPSPGSGWVNLSHLDGNLSDPCGPNRTDLGGRDSLCP
Consensus (1) MDSSAAPTNASNCTDALAYSSCPAPSPGSGWVNLSHLDGNLSDPCGPNRTDLGGRDSLCP

120

61

hMOR-1 (61) PTGSPSMITAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALAT
hMOR-1A (61) PTGSPSMITAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALAT
hMOR-1B1 (61) PTGSPSMITAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALAT
hMOR-1B2 (61) PTGSPSMITAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALAT
hMOR-1B3 (61) PTGSPSMITAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALAT
hMOR-1B4 (61) PTGSPSMITAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALAT
hMOR-1B5 (61) PTGSPSMITAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALAT
hMOR-1O (61) PTGSPSMITAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALAT
hMOR-1X (61) PTGSPSMITAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALAT
hMOR-1Y (61) PTGSPSMITAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALAT
Consensus (61) PTGSPSMITAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALAT

FIG. 4(1)

	121	180
hMOR-1	(121)	STLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRYIAVCHPVKALDF
hMOR-1A	(121)	STLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRYIAVCHPVKALDF
hMOR-1B1	(121)	STLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRYIAVCHPVKALDF
hMOR-1B2	(121)	STLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRYIAVCHPVKALDF
hMOR-1B3	(121)	STLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRYIAVCHPVKALDF
hMOR-1B4	(121)	STLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRYIAVCHPVKALDF
hMOR-1B5	(121)	STLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRYIAVCHPVKALDF
hMOR-1O	(121)	STLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRYIAVCHPVKALDF
hMOR-1X	(121)	STLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRYIAVCHPVKALDF
hMOR-1Y	(121)	STLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRYIAVCHPVKALDF
Consensus	(121)	STLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRYIAVCHPVKALDF
	181	240
hMOR-1	(181)	RTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFI
hMOR-1A	(181)	RTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFI
hMOR-1B1	(181)	RTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFI
hMOR-1B2	(181)	RTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFI
hMOR-1B3	(181)	RTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFI
hMOR-1B4	(181)	RTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFI
hMOR-1B5	(181)	RTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFI
hMOR-1O	(181)	RTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFI
hMOR-1X	(181)	RTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFI
hMOR-1Y	(181)	RTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFI
Consensus	(181)	RTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFI

FIG. 4(2)

241300

hMOR-1	(241)	FAFIMPVLIITVCYGLMILRLKSVRMLSGSKEKDRNLRRITRMVLVVAVFIVCWTP	PIHI
hMOR-1A	(241)	FAFIMPVLIITVCYGLMILRLKSVRMLSGSKEKDRNLRRITRMVLVVAVFIVCWTP	PIHI
hMOR-1B1	(241)	FAFIMPVLIITVCYGLMILRLKSVRMLSGSKEKDRNLRRITRMVLVVAVFIVCWTP	PIHI
hMOR-1B2	(241)	FAFIMPVLIITVCYGLMILRLKSVRMLSGSKEKDRNLRRITRMVLVVAVFIVCWTP	PIHI
hMOR-1B3	(241)	FAFIMPVLIITVCYGLMILRLKSVRMLSGSKEKDRNLRRITRMVLVVAVFIVCWTP	PIHI
hMOR-1B4	(241)	FAFIMPVLIITVCYGLMILRLKSVRMLSGSKEKDRNLRRITRMVLVVAVFIVCWTP	PIHI
hMOR-1B5	(241)	FAFIMPVLIITVCYGLMILRLKSVRMLSGSKEKDRNLRRITRMVLVVAVFIVCWTP	PIHI
hMOR-1O	(241)	FAFIMPVLIITVCYGLMILRLKSVRMLSGSKEKDRNLRRITRMVLVVAVFIVCWTP	PIHI
hMOR-1X	(241)	FAFIMPVLIITVCYGLMILRLKSVRMLSGSKEKDRNLRRITRMVLVVAVFIVCWTP	PIHI
hMOR-1Y	(241)	FAFIMPVLIITVCYGLMILRLKSVRMLSGSKEKDRNLRRITRMVLVVAVFIVCWTP	PIHI
Consensus	(241)	FAFIMPVLIITVCYGLMILRLKSVRMLSGSKEKDRNLRRITRMVLVVAVFIVCWTP	PIHI

301360

hMOR-1	(301)	YVIAKALVTIPETTFQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFREFCIPTSS	NI
hMOR-1A	(301)	YVIAKALVTIPETTFQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFREFCIPTSS	NI
hMOR-1B1	(301)	YVIAKALVTIPETTFQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFREFCIPTSS	NI
hMOR-1B2	(301)	YVIAKALVTIPETTFQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFREFCIPTSS	NI
hMOR-1B3	(301)	YVIAKALVTIPETTFQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFREFCIPTSS	NI
hMOR-1B4	(301)	YVIAKALVTIPETTFQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFREFCIPTSS	NI
hMOR-1B5	(301)	YVIAKALVTIPETTFQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFREFCIPTSS	NI
hMOR-1O	(301)	YVIAKALVTIPETTFQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFREFCIPTSS	NI
hMOR-1X	(301)	YVIAKALVTIPETTFQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFREFCIPTSS	NI
hMOR-1Y	(301)	YVIAKALVTIPETTFQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFREFCIPTSS	NI
Consensus	(301)	YVIAKALVTIPETTFQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFREFCIPTSS	NI

FIG. 4(3)

361	420	
hMOR-1	(361)	EQQNSTRIRQNTRDHPSTANTVDRTNHQLENLEAETAPLP-----
hMOR-1A	(361)	EQQNSTRIRQNTRDHPSTANTVDRTNHQVRSL-----
hMOR-1B1	(361)	EQQNSTRIRQNTRDHPSTANTVDRTNHQKIDLFQKSSLLNCEHTKG-----
hMOR-1B2	(361)	EQQNSTRIRQNTRDHPSTANTVDRTNHQRRRQKSDW-----
hMOR-1B3	(361)	EQQNSTRIRQNTRDHPSTANTVDRTNHQGPPAKFVADQLAGSS-----
hMOR-1B4	(361)	EQQNSTRIRQNTRDHPSTANTVDRTNHQS-----
hMOR-1B5	(361)	EQQNSTRIRQNTRDHPSTANTVDRTNHQVELNLDHCENAKPWPLSYNAG-----
hMOR-1O	(361)	EQQNSTRIRQNTRDHPSTANTVDRTNHQPPPLAVSMAQIFTRYPPPTHREKTCNDYMKR--
hMOR-1X	(361)	EQQNSTRIRQNTRDHPSTANTVDRTNHQCLPIPSLSCWALEHGCLVVYPGPLQGGLVRYD
hMOR-1Y	(361)	EQQNSTRIRQNTRDHPSTANTVDRTNHQIRDPISNLPRVSVF-----
Consensus	(361)	EQQNSTRIRQNTRDHPSTANTVDRTNHQ
421	446	
hMOR-1	(401)	----- (SEQ ID NO:62)
hMOR-1A	(393)	----- (SEQ ID NO:63)
hMOR-1B1	(407)	----- (SEQ ID NO:51)
hMOR-1B2	(398)	----- (SEQ ID NO:53)
hMOR-1B3	(404)	----- (SEQ ID NO:55)
hMOR-1B4	(390)	----- (SEQ ID NO:57)
hMOR-1B5	(411)	----- (SEQ ID NO:59)
hMOR-1O	(419)	----- (SEQ ID NO:64)
hMOR-1X	(421)	LPAILHSSCLRGNTAPSPSGGAFLLS (SEQ ID NO:65)
hMOR-1Y	(403)	----- (SEQ ID NO:61)
Consensus	(388)	----- (SEQ ID NO:66)

FIG. 4(4)

rMOR-1A

Exon 3a ↓ Exon 3b
-----AACCAACAGGTATGTGCTTTCTAGAATTACGGATAACATATAAAAAATACCATATCTGGTA
N H Q V C A F * (SEQ ID NO:67)
CCAGTCTAAGATTTAATCTTTAAGAAGGTCAGTAACTTGAGGCAAGTCC (SEQ ID NO:68)

rMOR-1C1

Exon 3a ↓ Exon 7
-----AACCAACAGCCAGCCCTGGCAGTCAGCGTGGCCAGATCTTTACAGGATATCCTTCTCCG
N H Q P A L A V S V A Q I F T G Y P S P
↓ Exon 8
ACTCATGGTGAAAAACCCCTGCAAGAGTTACAGGGACAGACCCCTGTGGAAAGAACGTGGT
T[□] H G E K P C K S[□] Y R D R P R P C G R T W
CTTTGAAATCGCGTGCAGAAATCCAATGTGGAGCACTTCCATTGTGGAGCCGCATTAATCTATAA
S[↔] L K S[□] R A E S[□] N V E H F H C G A A L I Y N
↓ Exon 9a
CAATGTGAATTTCATCTAAACACAGGGATGTGCTAGTGAGAAAGTTTGGAGGTGCAGGC (SEQ ID NO:69)
N V N F I * (SEQ ID NO:70)

FIG. 5(1)

rMOR-1C2

Exon 3a ↓ Exon 7
-----AACCACCAGCCCTGGCAGTCAGCGTGGCCAGATCTTTACAGGATATCCTTCTCCG
N H Q P A L A V S V A Q I F T G Y P S P
↓ Exon 8
ACTCATGGTGAAAAACCCCTGCAAGAGTTACAGGGACAGACCTAGACCCCTGTGGAAGAACGTGGT
T[□] H G E K P C K S[□] Y R D R P R P C G R T W
CTTTGAAATCGCGTGCAGAAATCCAATGTGGAGCACTTCCATTGTGGAGCCGCATTAATCTATAA
S[↔] L K S[□] R A E S[□] N V E H F H C G A A L I Y N
↓ Exon 9b
CAATGAACTAAAAATAGGGCCAGTGTCTTGCTCCAGATGCCCTGCGCACGTGCTCGTGCGCCCC
N E L K I G P V S W L Q M P A H V L V R P
TGGTAATGAACACGGGCTCCGATTCTGAATATCCTTCTGTG (SEQ ID NO:71)
W * (SEQ ID NO:72)

rMOR-1D

Exon 3a ↓ Exon 8
-----AACCACCAGACCTAGACCCCTGTGGAAGAACGTGGTCTTTGAAATCGCGTGCAGAAATCCAA
N H Q T * (SEQ ID NO:73) ↓ Exon 9b
TGTGGAGCACTTCCATTGTGGAGCCGCATTAAATCTATAACAATGAACATAAAATAGGGCCAGTG
TCCTGGCTCCAGATGCCCTGCGCACGTGCTCGTGGCCCCCTGGTAATGAACACGGGCTCCGATT
TGAATATCCTTCTGTG (SEQ ID NO:74)

FIG. 5(2)

rMOR-1B2 (1628 bp)

GTTACAGCCTACCTAGTCCGCAGCAGGCCTTCAGCACCATGGACAGCAGCACCGGCCAGGGAACACCAGCGACTGCT
CAGACCCCTTAGCTCAGGCAAGTTGCTCCCGCAGCACCTGGCTCAACTTGCTCCACGTTGATGGCAACCAGTC
CGATCCATGCGGTCTGAACCGCACCGGGCTTGGCGGGAACGACAGCCTGTGCCCTCAGACCGGCAGCCCTTCCATGGT
CACAGCCATTACCATCATGCCCCCTCTACTCTATCGTGTGTAGTGGCCCTCTTCGGAACCTTCCTGGTCATGTATGTGA
TTGTAAGATACACCAAAATGAAGACTGCCACCAACATCTACATTTTCAACCTTGCTCTGGCAGACGCCCTTAGCGACCAG
TACACTGCCCTTTCAGAGTGTCAACTACCTGATGGGAACATGGCCCTTCGGAACCATCCTCTGCAAGATCGTGATTTCA
ATAGATTACTACAACATGTTACACGCAATATTCACCCCTCTGCACCATGAGCGTGGACCGCTACATTGCTGTCTGCCACC
CAGTCAAAGCCCTGGATTTCCGTACCCCCCGAAATGCCAAATCGTCAACGTCTGCAACTGGATCCTCTCTCTGCCAT
CGGTCTGCCGTGAATGTTTATGGCAACCAACAAATACAGGCAAGGGTCCATAGATTGCACCCCTCAGTTCTCTCCACCCA
ACCTGGTACTGGGAGAACCTGCTCAAAATCTGTGCTTTATCTTCGCTTTCATCATGCCGCTCCTCATCATCACTGTGTG
TTACGGCCTGATGATCTTACGACTCAAGAGCGTTTCGCATGCTATCGGGCTCCAAGAAAGGACAGGAATTTTGCGCAG
GATCACCCGGATGGTGGTGGTGGCTGTATTATCGTCTGTGGACCCCATCCACATCTACGTCATCATCAAA
GCGCTGATCACGATTCCAGAAACCACATTTTCAGACCGTTTCTGCACTTCTGCAATTGGTTTACACGAACAGCT
GCCTGAATCCAGTTCTTTACGCCCTTCCTGGGATGAAAACTTCAAGCGATGCTTCAGAGAGTTCTGCAATCCCAACCTC
GTCCACGATCGAACAGCAAAACTCCACTCGAGTCCGTCAGAACACTAGGGAACATCCCTCCACGGCTAATACAGTGGA
TCGAACTAACCAAGAGCCTCAGTCAGTAGAGACATGATGTGAATGAACCAACTGATTAACAAGGTTTCTGAAC
ACTGAAATACAAACAAATGTAGAGGTTACTAGAGAAATTTGTAGCCTGAAATTCATACGGAAACCAATGAGT
GTGAGTGATACATTTTAAGGCCTCAGAGAGATTTATTTTCATGACTAACACATGACCCAAAGCACCTAAACTGTGGT
GATTAGATTACAAGACAATTCTAGAGCCTGGGACTAAAGAAATGTTAGCCCTCACACAGACAGGCCCTCACACTTCAG
TAATGGAAATGAGCAAAATTAGATTAGTGAGAAAGATGGAGAAAGACTCGAAATATTTTCATATCTTCTGTGGAACTC
CACAAAGAAACCAATAGAAATAAACCAACCTGCTGGACCTTGTTGGCTCTTACC (SEQ ID NO:79)

rMOR-1B2 (394 aa)

MDSSTGPGNTSDCSDPLAQASCPAPGSWLNLSHVVDGNQSDPCGLNRTGLGGNDSLCPQTGSPSMVTAITIMALYSIVCVVG
LFGNFLVMYVIVRYTKMKTATNIYIFNLALADALATSTLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRY
IAVCHPVKALDFRTPRNAKIVNVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFIFAFIMPVLIITV
CYGLMILRLKSVRMLSGSKEKDRNLRRIITRMVLVVVAVFIVCWTPIHIVVIKALITPETTFQTVSWHFCIALGYTNSCLNPVL
LRLPGMKTSSDASEEFCIPTSTIEQQNSTVRQRQNTREHPSTANTVDRTNHQEPQSVET (SEQ ID NO:80)

FIG. 6A

rMOR-1C1 (1433 bp)

GTTACAGCCTACCTAGTCCGCAGCAGGCCCTTCAGCACCATGGACAGCACCGGCCACGGAAACACAGCGACTGCT
CAGACCCCTTAGCTCAGGCAAGTTGCTCCCAAGCACTGGCTCCTGGCTCAACTTGTCCCACGTTGATGGCAACCAGTC
CGATCCATGCGGCTCTGAACCGCACCGGCTTGGCGGGAACGACAGCCTGTGCCCTCAGACCGGACGCCCTTCCATGGT
CACAGCCATTACCATCATGGCCCTCTACTCTATCGTGTGTAGTGGCCCTCTTCGGAAACTTCCCTGGTCATGTATGTGA
TTGTAAGATACACCAAAATGAAGACTGCCACCAACATCTACATTTTCAACCTTGTCTGGCAGACGCCCTTAGCGACCAG
TACACTGCCCTTTCAGAGTGTCAACTACCTGATGGGAACATGGCCCTTCGGAAACCATCCTCTGCAAGATCGTGATCTCA
ATAGATTACTACAACATGTTCAACCAGCATATTCAACCTCTGCACCATGAGCGTGGACCGCTACATTGCTGTCTGCCACC
CAGTCAAAGCCCTGGATTTCCGTACCCCCGAAATGCCAAATCGTCAACGTCTGCAACTGGATCCTCTCTTCTGCCAT
CGGTCTGCCCTGTAATGTTTCATGGCAACCAACAATACAGGAGGGTCCATAGATTGCACCTCACGTTCTCCCACCCA
ACCTGGTACTGGGAGAACCTGTCTAAATCTGTGCTTTATCTTCGCTTTCATCATGCGGTCTCTCATCATCACTGTGTG
TTACGGCCTGATGATCTTACGACTCAAGAGCGTTCGCAATGCTATCGGGCTCCAAAGAAAAGGACAGGAATCTGCGCAG
GATCACCCGGATGGTGGTGGTGGTGTATTTATCGTCTGTGGACCCCATCCACATCTACGTCAATCATCAAA
GCGCTGATCACGATTCCAGAAACCAACATTTTCAGACCGTTCCTGGCACTTCTGCAATTGGGTTACACGAAACAGCT
GCCTGAATCCAGTCTTACGCCCTTCCTGGATGAATACTTCAAGCGATGCTTCAGAGAGTTCTGCAATCCCAACCTCGTCC
ACGATCGAACAGCAAAACTCCACTCGAGTCCGTGAGAACACTAGGGAACATCCCTCCACGGCTAATACAGTGGATCGA
ACTAACCAAGCCAGCCCTGGCAGTCAGCGTGGCCAGATCTTTACAGGATATCCTTCTCCGACTCATGTTGTAATAAC
CCTGCAAGAGTTACAGGGACAGACCTAGACCTGTGGAAGAACGTGGTCTTTGAAATCGCGTGCAGAAATCCAATGTGG
AGCACTTCCATTGTGGAGCCGATTAAATCTATAACAATGTGAATTTCATCTAAACACAGGGATGTGCTAGTGAGAAAGTT
TGGAGGTGCAGGC (SEQ ID NO:81)

rMOR-1C1 (451 aa)

MDSSTGPGNTSDCDPLAQASCSPAPGSWLNLSHVDGNQSDPCGLNRTGLGGNDSLCPQTGSPSMVTAITMALYSIVCVVG
LFGNFLVMYVIVRYTKMKTATNIYIFNLALADALATSTLPFQSVNYLMGTWPFGTILCKJVISIDYYNNMFTSIFTLCTMSVDRY
IAVCHPVKALDFRTPRNAKJNVNCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFIFAFIMPVLIITV
CYGLMILRLKSVRMLSGSKEKDRNLRRIIRMLVVVAVFIVCWTPIHIVIIKALITIPETTFQTVSWHFCIALGYTNSCLNPVL
YAFLDENFKRCFREFCIPTSSTIEQQNSTRVRQNTREHPSTANTVDRTNHQPALAVSVAQIFTGYPSPTHGEKPKCKSYRDRPRP
CGRTWSLKSRAESNVEHFHCGAALIYNNVNF (SEQ ID NO:82)

FIG. 6B

GTTACAGCCTACCTAGTCCGCAGCAGGCGCTTCAGCACCATGGACAGCACCGGCCACCGGAAACACACGACTGCT
 CAGACCCCTTAGCTCAGGCAAGTTGCTCCCGACACCTGGCTCCTGGCTCAACTTGTGCCACGTTGATGGCAACCAAGTC
 CGATCCATGCGGTCTGAACCGCACCGGCTTGGCGGAACGACAGCCTGTGCCCTCAGACCGGCAGCCCTTCCCATGGT
 CACAGCCATTACCATCATGGCCCTCTACTCTATCGTGTGTAGTGGCCTCTTCGGAAACTTCCCTGGTCAATGTATGTGA
 TTGTAAGATACACCAAATGAAGACTGCCACCAACATCTACATTTTCAACCTTGTCTGGCAGACGCCCTTAGCGACCCAG
 TACACTGCCCTTTCAGAGTGTCAACTACCTGATGGGAACATGGCCCTTCGGAAACCATCCTCTCTGCAAGATCGTGATCTCA
 ATAGATTACTACAACATGTTTACCCAGCATATTCAACCCTCTGCACCATGAGCGTGGACCGCTACATTGCTGTCTGCCACC
 CAGTCAAAGCCCTGGATTTCCGTACCCCCGAAATGCCAAATCGTCAACGTCTGCAACTGGATCCTCTCTTCTTGCCAT
 CGGTCTGCCGTGTAATGTTTCATGGCAACCAACAAATACAGGCAGGGTCCATAGATTGCACCCCTCACGTTTCTCCACCCCA
 ACCTGGTACTGGGAGAACCTGCTCAAAATCTGTGTCTTTATCTTCGCTTTCATCATGCGGTCCCTCATCATCACTGTGTG
 TTACGGCCTGATCTTACGACTCAAGAGCGTTTCGCATGCTATCGGCTCCAAAGAAAGGACAGGAATCTGCGCAG
 GATCACCCGGATGGTGGTGGTCTGATTTATCGTCTGTGACCCCAATCCACATCTACGTCAATCATCAAA
 GCGCTGATCACGATTCCAGAAACCAACATTTTCAGACCGTTTCCCTGGCAGTTCTGCAATTGCTTTGGTTACACGACAGCT
 GCCTGAATCCAGTTCTTTACGCCCTTCCCTGGATGAAAACTTCAAGCGATGCTTCAGAGAGTTCTGCAATCCCAACCTCGTCC
 ACGATCGAACAGCAAAACTCCACTCGAGTCCGTTCAGAACACTAGGGAACATCCCCTCCACGGCTAATACAGTGGATCGA
 ACTAACCAACAGCCAGCCCTGGCAGTTCAGCGTGGCCAGATCTTTACAGGATATCCTTCTCCGACTCATGTGAAAAAC
 CCTGCAAGAGTTACAGGACAGACCTAGACCCCTGTGGAAGAACGTGGTCTTTTGAAATCGCGTGCAGAAATCCAATGTGG
 AGCACTTCCATTGTGGAGCCGATTAAATCTATAACAAATGAACATAAGGCCAGTGTCTCTGGCTCCAGATGCCCTGC
 GCACGTGCTCGTGCGCCCTGGTAATGAACACGGCTCCGATTCTGAATATCCTTCTGTG (SEQ ID NO:83)

rMOR-1C2 (468 aa)

MDSSTGPGNTSDCSDPLAQASCSPAPGSWLNLSHVDGNQSDPCGLNRTGLGGNDSLCPQTGSPSMVTAITIMALYSIVCVVG
LFGNFLVMYVIVRYTKMKTATNIYIFNLALADALATSLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRY
IAVCHPVKALDFRTPRNAKIVNCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFIFAFIMPVLIITV
CYGLMILRLKSVRLSGSKEKDRNLRRITRMVLVVAVFIVCWTPIHYYVIKALITIPETTFQTVSWHFCIALGYTNSCLNPVL
YAFLDENFKRCREFCIPTSSSTIEQQNSTVRQNTREHPSTANTVDRTNHQPALAVSVAQIFTGYPSPTHGEKPKCKSYRDRPRP
CGRTWSLKSRAESNVEHFHCGAALIYNNELKIGPVSWLQMPAHVLVRPW (SEQ ID NO:84)

FIG. 6C

rMOR-1D (1385 bp)

GCCTACCTAGTCCGCAGCAGGCCCTTCAGCACCATGGACAGCACCGGCCACGGGAACACACGCGACTGCTCAGACC
CCTTAGCTCAGGCAAGTTGCTCCCCAGCACCTGGCTCCTGGCTCAACTIGTCCCACGTTGATGGCAACCAAGTCCGATCC
ATGCGGTCTGAACCGCACCCGGCTTGCGGGAACGACAGCCTGTGCCCTCAGACCGCAGCCCTTCCATGGTCACAGC
CATTACCATCATGGCCCTCTACTCTATCGTGTGTAGTGGCCCTCTTCGGAAACTTCCTGGTCATGTATGTGATTGTAA
GATACACCAAAATGAAGACTGCCACCAACATCTACATTTTCAACCTTGCTCTGGCAGACGCCCTTAGCGACCAAGTACACT
GCCCTTTCAGAGTGTCAACTACCTGATGGGAACATGGCCCTTCGGAACCATCCTCTGTGCAAGATCGTGATCTCAATAGAT
TACTACAAATGTTACCCAGCATATTACCCCTCTGCACCATGAGCGTGGACCGCTACATTGCTGTCTGCCACCCAGTCA
AAGCCCTGGATTTCCGTACCCCCGAAATGCCAAATCGTCAACGTCGCAACTGGATCCCTCTCTTCTGCCATCGGTCT
GCCTGTAATGTTTCATGGCAACCACAAATACAGGCAAGGTCCATAGATTGCACCTCACGTTCTCCACCCAAACCTGG
TACTGGGAGAACCTGCTCAAAATCTGTGCTTTGTCTTCATCATGCCGGTCCCTCATCATCATGTGTGTACGG
CCTGATGATCTTACGACTTAAGAGCGTTTCGCATGCTATCGGGCTCCAAAGAAAGGACAGGAATCTGCGCAGGATCAC
CCGGATGCTGTGTCGTGGCTGTATTATCGTCTGTGGACCCCATCCACATCTACGTCAATCAAAAGCGCTG
ATCACGATTCCAGAAACCAATTTTCAGACCGTTTCTGGCACTTCTGCAATGCTTTGGGTTACACGAACAGCTGCCTGA
ATCCAGTTCTTTACGCCCTTCCTGGATGAAACTTCAAGCGATGCTTCAGAGAGTTCTGCAATCCCAACCTGTCACCGATC
GAACAGCAAAACTCCACTCGAGTCCGTCAGAACACTAGGGAACATCCCTCCACGGCTAATACAGTGGATCGAACTAAC
CACCAGACCTAGACCCCTGTGGAAGAACGTGGTCTTTGAAATCGCGTGCAGAAATCCAATGTGGAGCACTTCCATTGTGGA
GCCGCATTAAATCTATAACAATGAACATAAGGCCAGTGTCTGGCTCCAGATGCCCTGCGCACGTGCTCGTGCGCC
CCTGGTAATGAACACGGGCTCCGATTCTGAATATCCTTCTGTG (SEQ ID NO:85)

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rMOR-1D (387 aa)

MDSTGPNTSDCSDPLAQASCPAPGSWLNLSHVDGNQSDPCGLNRTGLGGNDSLCPQTGSPSMVTAITMALYSIVCVVG
LFGNFLVMYVIVRYTKMKTATNIYIFNLALADALATSTLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRY
IAVCHPVKALDFRTPRNAKIVNVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFVFAFIMPVLIITV
CYGLMILRLKSVRMLSGSKEKDRNLRRIITRMVLVVAVFIVCWTPIHYYIIKALITIPETTFQTVSWHFCIALGYTNSCLNPVL
YAFLDENFKRCREFCIPTSTIEQQNSTVRQNTREHPSTANTVDRTNHQT (SEQ ID NO:86)

FIG. 6D

rMOR-1E (390 aa)

MDSSSTGPGNTSDCDPLAQASCSPAPGSWLNLSHVDGNQSDPCGLNRTGLGGNDSLCPQTGSPSMVTAITIMALYSIVCVVG
LFGNFLVMYVIVRYTKMKTATNIYIFNLALADALATSTLPFQSVNYLMGTWPFGTILCKIVISIDYYNNMFTSIFTLCTMSVDRY
IAVCHPVKALDFRTPRNAKIVNCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFFAFIMPVLITV
CYGLMILRLKSVRMLSGSKEKDRNLRGITRMVLVVVAVFIVCWTPIHYYVIAKALITPETTFQTVSWHFCIALGYTNSCLNPVL
YAFLDENFKRCFREFCIPTSSTIEQQNSTRVRQNTREHPSTANTVDRTNHQGAEL (SEQ ID NO:88)

FIG. 6E(2)